UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,444	08/01/2003	Michael T. Roeder	200313908-1	4688

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EXAMINER
YUEN, KAN

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
09/19/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/633,444	ROEDER, MICHAEL T.
	Examiner	Art Unit	
	KAN YUEN	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 June 2008</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-23</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-23</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
           application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

1.   In view of the Appeal Brief filed on 6/25/2008, PROSECUTION IS HEREBY

REOPENED. A new ground of rejection is set forth below.

        To avoid abandonment of the application, appellant must exercise one of the

following two options:

        (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply

under 37 CFR 1.113 (if this Office action is final); or,

        (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed

by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and

appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth

in 37 CFR 41.20 have been increased since they were previously paid, then appellant

must pay the difference between the increased fees and the amount previously paid.

        A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by

signing below:

        /Ricky Ngo/

        Supervisory Patent Examiner, Art Unit 2616

                                  Response to Arguments

2.   Applicant's arguments, see remark, filed 6/25/2008, with respect to the

rejection(s) of claim(s) 1-23 under 103 rejections have been fully considered and are

persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of Lamberton et al. (Pat no.:

6754220) in view of Matsuzawa et al. (Pub No.: 2006/0109853).

Claim Rejections - 35 USC § 103

3.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1, 7, 17, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lamberton et al. (Pat no.: 6754220) in view of Matsuzawa et al. (Pub No.:

2006/0109853).

6.   For claim 1, Lamberton et al. disclosed the method of receiving a packet at a first

router from a source host to be forwarded to a destination host (Lamberton et al. column

3, lines 10-25). Upon sending from a particular host a first data packet towards one of

the remote users, a request is first issued from that particular host, using the address of

the mediator, for the purpose of being assigned a particular router;

applying an algorithm at the first router to select a second router to be a next gateway for the source host for packets destined to the destination host; and sending an ICMP redirect message from the first router to the source host to reset a default gateway of the source host to be the second router for packets destined to the destination host (Lamberton et al. column 3, lines 10-35). In response to the request, the mediator 300 selects one among those of the routers 370 that are active and informs the host which may then forward the first data packet to the selected router. The mediator may select an alternative router based on the congestion or failure of the current router (column 2, lines 10-15), and thus the selection may be considered as one type of algorithm. In the background of Lamberton et al. it stated that there are a number of methods that an end-host can use to determine its first hop router towards a particular IP destination, and these methods can be RIP, or ICMP. Thus, it is obvious for the mediator to send an ICMP message to inform the host to forward the subsequent packets to the newly selected router.

However, Lamberton et al. did not disclose the feature of applying an algorithm at the first router to select next router to be a next gateway for transmitting data packet. Matsuzawa et al. from the same or similar fields of endeavor disclosed the feature of applying an algorithm at the first router to select next router to be a next gateway for transmitting data packet (Matsuzawa et al. paragraphs 0040-0043, 0047-0051, fig. 1, fig. 2). Each router shown in fig. 1 may have the same configuration as shown in fig. 2. For example, the router device 101 can recognize that the network 120 is reachable at the same cost by adopting either one of a route via the router device 102 or 103. Fig. 2

is a block diagram showing the configuration of a router. The routing table 203 is a table

used in obtaining (selecting) a next hop router from the destination address.

Thus, it would have been obvious to use the teaching of applying a selection

algorithm at the router to select next router for data transmission as taught by

Matsuzawa et al. to modify each of the routers 370 as taught by Lamberton et al. by

implementing the mediator 200 into each of the routers 370, so that selection algorithm

can be perform within a router. The motivation for using the teaching of Matsuzawa et

al. in the system of Lamberton et al. being that it increases system reliability by allowing

each router function independently.

Claim 7 is rejected similar to claim 1.

Regarding claim 17, Lamberton et al. disclosed the method of receiving an

address resolution protocol (ARP) request at the plurality of routers from a requesting

host from a source IP address in relation to a destination IP address; performing the

automated selection of the router to respond to the ARP request; and sending an ARP

reply from the responding router to the requesting host (Lamberton et al. column 4, lines

60-67, column 5, lines 1-15 and fig. 4). Because host 400 has not yet obtained any

corresponding MAC address it may match with the default IP address it must broadcast

an ARP 460 to all devices on the LAN to which only mediator is going to respond with

an ARP hence associating IP address with the MAC address of the router 440 the

mediator has chosen for handling host IP outside traffic.

However Lamberton et al. did not disclose the feature of applying an algorithm at

each router to determine which single router is to respond to the ARP request.

Matsuzawa et al. from the same or similar fields of endeavor teaches the feature of

applying an algorithm at each router to determine which single router is to respond to

the ARP request (Matsuzawa et al. paragraphs 0040-0043, 0047-0051, fig. 1, fig. 2).

Each router shown in fig. 1 may have the same configuration as shown in fig. 2. For

example, the router device 101 can recognize that the network 120 is reachable at the

same cost by adopting either one of a route via the router device 102 or 103. Fig. 2 is a

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can be perform within a router. The motivation for using the teaching of Matsuzawa et

al. in the system of Lamberton et al. being that it increases system reliability by allowing

each router function independently.

Claim 23 is rejected as in claim 17.

7.   Claims 2, 4, 5, 8, 10-12, 18, 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lamberton et al. (Pat no.: 6754220) in view of Matsuzawa et al. (Pub

No.: 2006/0109853), as applied to claim 1 above, and further in view of Inoue et al. (Pub

No.: 2003/0108052).

For claims 2, 8 Lamberton et al. and Matsuzawa et al. both disclosed all the
subject matter of the claimed invention with the exception of the algorithm comprises a
pseudo-random algorithm. Inoue et al. from the same or similar fields of endeavor
teaches the feature of the algorithm comprises a pseudo-random algorithm (see
paragraph 0021, lines 1-8). Thus, it would have been obvious to the person of ordinary
skilled in the art at the time of the invention to use the method as taught by Inoue et al.
in the network of Lamberton et al. and Matsuzawa et al. The motivation for using the
method as taught by Inoue et al. in the network of Lamberton et al. and Matsuzawa et
al. being that it provides uniform distribution to the destination.

Regarding claim 4, Inoue et al. also disclosed the feature of the algorithm
comprises a hash function, wherein an output of the hash function returns an index of a
router to be used to route subsequent packets with a same hash value (see paragraph
0075, lines 1-5, 0076, lines 1-5, and see fig. 5, selecting module 47).

Regarding claim 5, Inoue et al. also disclosed the feature of the hash function is
a function of any combination of the IP addresses of the destination and source hosts of
the packet (see paragraph 0074, lines 1-4).

Regarding claim 10, Inoue et al. also disclosed the wherein the selection module
applies a hash function (see paragraph 0075, lines 1-5, 0076, lines 1-5, and see fig. 5,
selecting module 47).

Regarding claim 11, Inoue et al. also disclosed the feature wherein the hash
function is a function of the source IP address (see paragraph 0074, lines 1-4).

Regarding claim 12, Inoue et al. also disclosed the feature wherein the hash function is a function of a combination of the source and destination IP addresses (see paragraph 0074, lines 1-4).

Regarding claim 18, Inoue et al. also disclosed the feature of forwarding a packet from the source IP address to the destination IP address (see paragraph 0102, lines 1-5).

Regarding claim 19, Inoue et al. also disclosed the feature wherein the algorithm comprises a hash function (see paragraph 0075, lines 1-5).

8.   Claims 3, 6, 9, 13, 15, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamberton et al. (Pat no.: 6754220) in view of Matsuzawa et al. (Pub No.: 2006/0109853), as applied to claim 1 above, and further in view of Datta et al. (Pat No.: 6493341).

For claim 3, Lamberton et al. and Matsuzawa et al. both disclosed all the subject matter of the claimed invention with the exception of the algorithm selects the next default gateway using a round robin type selection process. Datta et al. from the same or similar fields of endeavor teaches the feature wherein the algorithm selects the next default gateway using a round robin type selection process (see column 8, lines 31-40). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the feature as taught by Datta et al. in the network of Lamberton et al. and Matsuzawa et al. The motivation for using the feature as taught by Datta et al.

in the network of Lamberton et al. and Matsuzawa et al. being that each node will take

turn to become a gateway.

Regarding claim 6, Datta et al. also disclosed the feature wherein the algorithm is

load based, and further comprising communicating load levels amongst the plurality of

routers (see column 23, lines 21-37).

Regarding claim 9, Datta et al. also disclosed the feature wherein the selection

module applies a round-robin type algorithm to select the next gateway (see column 8,

lines 31-40).

Regarding claim 13, Datta et al. also disclosed the feature wherein the apparatus

is configured to communicate load levels to and receive load levels from other routing

apparatus, and wherein the selection module applies a load-based algorithm (see

column 23, lines 21-37).

Regarding claim 15, Datta et al. also disclosed the feature wherein the load-

based algorithm comprises weighted round robin algorithm (see column 8, lines 31-40).

Regarding claim 21, Datta et al. also disclosed the feature wherein the algorithm

determines the responding router using a round robin type selection process (Detta et

al. see column 8, lines 31-40)

Regarding claim 22, Datta et al. also disclosed the feature wherein the algorithm

is load based, and further comprising communicating load levels amongst the plurality

of routers (see column 23, lines 21-37).

9.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lamberton et al. (Pat no.: 6754220) in view of Matsuzawa et al. (Pub No.:

2006/0109853), as applied to claim 13 above, and further in view of Datta et al. (Pat

No.: 6493341) and Lamberton et al. (Pat No.: 7003581).

         For claim 14, Lamberton et al. (220), Matsuzawa et al., and Datta et al. disclosed

all the subject matter of the claimed invention with the exception of the load-based

algorithm comprises a weighted hash algorithm. However, Lamberton et al. (581) from

the same or similar fields of endeavor teaches the feature wherein the load-based

algorithm comprises a weighted hash algorithm (see column 5, lines 14-36). Thus, it

would have been obvious to the person of ordinary skilled in the art at the time of the

invention to use the feature as taught by Lamberton et al. (581) in the network of

Lamberton et al. (220), Matsuzawa et al., and Datta et al. The motivation for using the

feature as taught by Lamberton et al. (581) in the network of Lamberton et al. (220),

Matsuzawa et al., and Datta et al. being that it provides a data transmission system

including an IP network wherein the IP host can select directly the router with high

availability.

10.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lamberton et al. (Pat no.: 6754220) in view of Matsuzawa et al. (Pub No.:

2006/0109853), as applied to claim 13 above, and further in view of Datta et al. (Pat

No.: 6493341) and Inoue et al. (Pub No.: 2003/0108052).

For claim 16, Lamberton et al, Matsuzawa et al., and Datta et al. disclosed all the

subject matter of the claimed invention with the exception of a pseudo-random

algorithm. Inoue et al. from the same or similar fields of endeavor teaches the feature

wherein the load-based algorithm comprises a pseudo-random algorithm (see

paragraph 0021, lines 1-8). Thus, it would have been obvious to the person of ordinary

skilled in the art at the time of the invention to use the feature as taught by Inoue et al.

in the network of Lamberton et al., Matsuzawa et al., and Datta et al. The motivation for

using the feature as taught by Inoue et al. in the network of Lamberton et al. (220),

Matsuzawa et al., and Datta et al. being that it provides uniform distribution to the

destination.

11.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lamberton et al. (Pat no.: 6754220) in view of Matsuzawa et al. (Pub No.:

2006/0109853), as applied to claim 19 above, and further in view of Inoue et al. (Pub

No.: 2003/0108052) and Blair (Pat No.: 6778495).

For claim 20, Lamberton et al., Matsuzawa et al. and Inoue et al. disclosed all the

subject matter of the claimed invention with the exception of the hash function is a

function of the source and destination IP addresses. Blair from the same or similar fields

of endeavor teaches the feature wherein the hash function is a function of the source

and destination IP addresses (background of the invention, see column 2, lines 5-11).

Thus, it would have been obvious to the person of ordinary skilled in the art at the time

of the invention to use the feature as taught by Blair in the network of Lamberton et al.,

Matsuzawa et al. and Inoue et al. The motivation for using the feature as taught by Blair

in the network of Lamberton et al., Matsuzawa et al. and Inoue et al. being that it

provides multiple links between two or more sites, providing no requirements to add a

sequence header or rearrange packets to compensate for different transit times over

different links.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KAN YUEN whose telephone number is (571)270-1413.

The examiner can normally be reached on Monday-Friday 10:00a.m-3:00p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky O. Ngo can be reached on 571-272-3139. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art
Unit 2616

KY